

### **REMARKS**

Based on the above amendments and the following remarks, Applicant respectfully submits that all the pending claims are in condition for allowance.

#### **Status of the Claims**

Claims 1-17 were pending. Claims 1 and 10 have been amended. Claim 9 has been cancelled. Claims 1-17 are pending.

Claim 1 has been amended to incorporate the limitations of claim 9. The scope of this claim is unchanged relative to cancelled claim 9.

Claim 10 has been amended to refer to claim 1 instead of cancelled claim 9.

#### **Drawings**

The Examiner objected to the drawings, indicating that Figure 1 should be designated as "Prior Art." Applicant has modified the drawing as requested by the Examiner. For the convenience of the Examiner, Applicant has provided a complete set of the replacement drawings as an attachment to this response.

#### **Information Disclosure Statement**

The Examiner noted that several cited references within the application were not included in a separate Information Disclosure Statement, and thus were not considered. Applicant has included a supplemental Information Disclosure Statement that includes those references cited in the application and that were not already separately listed. This supplemental Information Disclosure Statement also includes a corrected citation for the Winbow reference ("How to Separate Compressional and Shear Arrivals in a Sonic Log") that includes the publication date.

#### **§ 112 Claim Rejections**

Claims 10, 13, and 15 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the

applicant regards as the invention. Specifically, the Examiner contends that the use of the word “associated” in claims 10, 13, and 15 renders the claims indefinite due to a lack of clarity as to whether the limitations following the phrase are part of the claimed invention. The Examiner cites MPEP § 2173.05(d) in support of this contention. Applicant respectfully traverses this rejection with respect to these claims, and maintains that the claim language is not indefinite.

Claim 10 recites an internal controller configured “to identify a phase semblance peak associated with each of a plurality of frequencies,” and configured “to identify a smallest slowness value associated with the phase semblance peak.” The term “associated” is used within the claim to establish the relationships between individual claim elements. However, the MPEP section cited by the Examiner only addresses “Exemplary Claim Language,” specifically referring to the phrases “for example” and “such as.” The phrase “associated” does not constitute such exemplary claim language. It is clear that the words following the term “associated” are part of the claimed invention, and hence this rejection is inappropriate.

Similarly, claim 13 recites, “calculating... slowness values associated with a peak phase semblance as a function of frequency,” and claim 15 recites, “determining a minimum slowness value associated with the peak phase semblance.” As with claim 10, the term “associated” establishes the relationships between claim elements, and is not used to introduce an example of a previously described claim element or limitation. Thus, the words following the term “associated” in claims 13 and 15, as in claim 10, are also clearly part of the claimed invention.

The Examiner also contends that the use of the word “enhance” renders claim 17 indefinite due to the lack of clarity as to whether the limitations following the phrase are part of the claimed invention. The Examiner again cites MPEP § 2172.05(d) in support of this contention. Applicant respectfully traverses this rejection and maintains that it is clear that the words following the term “enhance” are part of the claimed invention and do not introduce an example of a previously described claim or limitation. Thus, claim 17 is not indefinite for this reason.

For the forgoing reasons, Applicant thus respectfully submits that claims 10, 13, 15 and 17 satisfy the requirements of 35 USC § 112.

**§ 102 Claim Rejections**

Claims 1-17 stand rejected under 35 USC § 102 as being anticipated by U.S. Patent No. 5,077,697 ("Chang"). Applicant respectfully traverses the rejections because the claims contain patentable features not taught or suggested in the cited art.

Independent claim 1, as amended, incorporates the limitations previously in dependent claim 9 (now cancelled), and recites an internal controller "configured to determine a *phase* semblance as a function of *frequency* and slowness from the receiver signals" (emphasis added). The cited art neither teaches nor suggests this limitation. Instead, the art cited by the Examiner as anticipating this limitation (with respect to cancelled claim 9) describes only determining *time* semblance as a function of *time* and slowness (See Chang Fig. 2 and column 2, lines 21-23). Applicant respectfully submits that claim 1 and those remaining claims that depend from it are allowable over the cited art for at least this reason.

Similarly, independent claim 13 recites, "calculating... slowness values associated with a peak *phase* semblance as a function of *frequency*" (emphasis added). The cited art neither teaches nor suggests this limitation. The art cited by the examiner only illustrates slowness as a function of depth for different types of acoustic waves (column 2, lines 50-58 with figure 3). For at least this reason, Applicant respectfully submits that claim 13 and those claims that depend from it are allowable over the cited art.

**CONCLUSION**

Applicant submits that this response constitutes a complete response to all of the issues raised in the Office Action dated October 21, 2004.

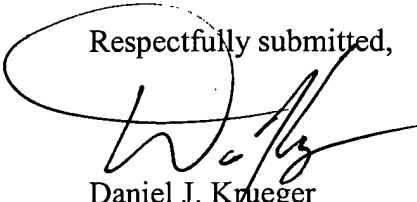
In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion, or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood

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that there may be other distinctions between the claims and the prior art which have yet to be raised, but which may be raised in the future.

If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley Rose, P.C. Deposit Account Number 03-2769/1391-24800/HDJK.

Respectfully submitted,



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**Amendments to the Drawings:**

The attached replacement drawings include an amended version of Figure 1. For the convenience of the Examiner a complete set of the replacement drawings is provided as an attachment to this response.

Attachment: Replacement drawings with Fig. 1 amended.